

A BEAVER'S TOOTH



CHRISTMAS • • • • • 1909

A Beaver's Tooth

*With some account
of the Beaver's Works and Ways, of Indian
Legends about the Beaver, and of Curious
Old World Beliefs of the Magical and
Medicinal Powers of Castoreum
and Beavers' Teeth.*



WINNIPEG.
Christmas, Nineteen Hundred and Nine



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WINNIPEG CANADA

A Beaver's Tooth



IN the eighteenth century Canada exported a moderate quantity of timber, wheat, the herb called ginseng, and a few other commodities, but from first to last she lived chiefly on beaver skins," writes Kingsford in his History of Canada.

Attempts were made by the French to establish a traffic in furs with this continent as early as 1549, but it was not until 1603 that a regular system of trade between France and Canada was begun under Royal charter. In 1623, the Dutch settlements in America, the New Netherlands, as they were called, had so far appreciated the importance of the traffic as to adopt the beaver in their first public seal. It was on May 2, 1670 that Charles II granted a Royal charter to the Governor and Company of Hudson's Bay, whereby the Company, at their own cost and charges having undertaken the "Discovery of a Passage into the South Sea," were made masters of the "Lands, Countries and Territories, Coasts and Confines of the Seas, Streights, Bays, Lakes, Rivers, Creeks and Sounds, together with the whole Trade and Commerce of these parts," for which Prince Rupert and his fellow Adventurers of the Hudson's Bay Company bound themselves and



their successors to give yearly "Two Elks, Two Black Beavers, whensoever and as often as We, Our Heirs, and Successors, shall happen to enter into the said Countries, Territories and Regions, hereby granted."



WHEN this continent was first explored by European discoverers the beaver was found inhabiting almost all the woodland streams from the Arctic Circle down to Central Mexico. Its temperament and manner of living made it an easy

prey, and prevented it, too, from adapting itself to changed conditions, as did its relative the muskrat. It rapidly disappeared, therefore, wherever civilization progressed or trapping was systematically carried on.

The principal use to which beaver fur was put was for the making of felt for hats, and it is probable that only the invention of silk plush, which took the place of beaver felt in hat-making, saved the animal from extinction. The beautiful fur of the beaver is most perfectly suited for felting purposes, and so universally was "beaver wool" esteemed for felt making that when the introduction of rabbits' fur and other adulterations affected the beaver trade in England, Parliament, in 1638, passed an Act designed to prevent the abuse and maintain the purity of the beaver felt. It is recorded that in 1663 a good beaver hat was worth 4 pounds 5 shillings, which, with the very much greater value of the pound and shilling then than now, indicates the high esteem in which beaver hats were held. They had been introduced as the fashionable wear in the



Continental "tul" crooked
1800, 1810



The Wellington
1812



The Paris Beau
1815

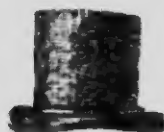


The D'Orsay
1820

reign of Queen Elizabeth, when they assumed all manner of shapes and variety of color. At first their broad brims hung down; then one flapping edge was turned up, and next another, until, in the reign of Queen Anne, a third flap was turned up and the "cocked hat," or continental hat, was formed. In various styles, the "cocked hat" remained fashionable during the whole of the eighteenth century, and with the nineteenth century came in the conventional stove-pipe shape, which, with infinite variations, has lasted to our own day. English literature abounds with the use of the word "beaver," to mean hat. Here, for instance, is a characteristic quotation from Pepys' Diary: "This day I put on my half cloth black stockings and my new coate of the fashion, which pleases me well, and with my beaver I was, after office was done, ready to go to my Lord Mayor's feast." Tom Hood wrote:

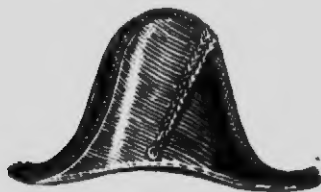
"The Quaker loves an ample brim,
A hat that bows to no salamm;
And dear the beaver is to him,
As if it never made a dam."

In equally general use with "beaver," as signifying a hat, was "castor," which is the Latin for "beaver," being identical with the Greek word for "beaver," which the philologers derive from the Sanskrit and Hindustani "kasturi," meaning musk, with reference to castoreum, of which mention will be made later on. As an example of the use of "castor" to mean a hat, may be cited this from Scott: "I have always been known for the jaunty manner in which I wear my castor."



The Regent
1825

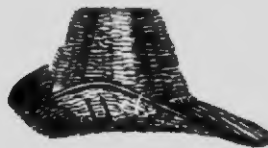
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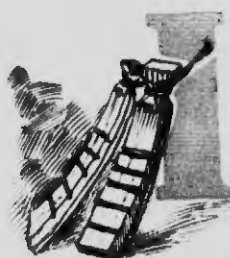
Navy, 1800



Army, 1837



Clerical,
Eighteenth Century



IN trading with the Indians, beaver skins, being the chief commodity received in trade, were made the standard by which to rate all other furs and the goods bartered by the Hudson's Bay Company in exchange. The following items are

from an old Hudson's Bay Company "Standard of Trade," or price list, for Albany Fort, Moose River and the East Main, dated 1733:



Fur trader's talley sticks

Beads— $\frac{1}{2}$ pound for	1 beaver
Kettles (brass)—1 pound for	1 "
Gunpowder— $\frac{1}{2}$ pounds for	1 "
Shot—5 pounds for	1 "
Tobacco—1 pound for	1 "
Vermillion— $\frac{1}{2}$ ounce for	1 "
Brandy—1 gallon for	4 "
Blankets—1 yard for	6 "
Breeches—1 pair for	3 "
Guns—1 for	10, 11, 12 "
Firesteels—4 for	1 "
Flints—20 for	1 "
Looking Glasses—2 for	1 "
Needles—12 for	1 "
Shirts—1 for	1 "
Shoes—1 pair for	1 "
Stockings—1 pair for	1 "
Twine—1 skane for	1 "

At the foot of the price list from which the above items are taken appears the following:

NOTE.—That the Standard at York Fort and Churchill is much higher, the French being not so near these places, and therefore can't Interfere with the



Hudson Bay Company tokens

Company's Trade so much as they do at Albany and Moose River, where they under-sell the Company, and by that means Carry off the Most Valuable Furs.

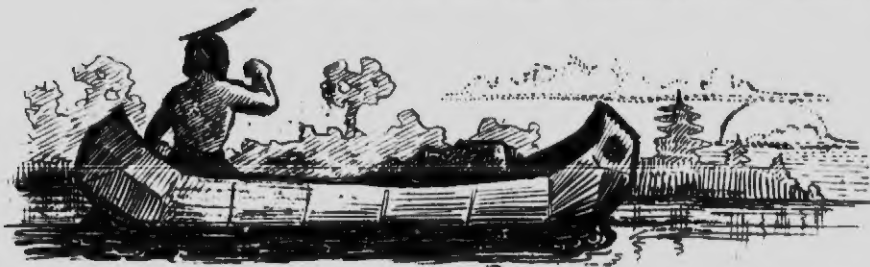
The number of beaver skins exported by the Hudson's Bay Company at that time was estimated at over 200,000 skins, and the number exported by the French at over 100,000. The Treaty of Utrecht brought about peace in America, as it did in Europe, and the fur trade began to increase rapidly and to return enormous profits. The annual returns from Fort Prince of Wales alone reached 20,000 beaver skins, and though at that time the exports included a long list of valuable articles, the quantity of beaver skins represented two-thirds of the entire value. A most extraordinary crisis was reached in the year 1700. For some time previous the collection of beaver skins had been so excessive as to glut the market, and in the year mentioned the accumulation at Montreal was so enormous that three-fourths of it was burned, to make the other portion worth exporting. Not until a century later did John Jacob Astor, in 1810, organize the famous Pacific Fur Company, outfitting one contingent for crossing the continent in the wake of the explorers Lewis and Clark, who, fitted out by the United States Government, had made their way to the Pacific six years before, and another contingent to go by ship around Cape Horn to carry supplies for the proposed settlement of Astoria and for the carrying on of the fur trade with the natives along the coast. The story of this enterprise, as told by Washington Irving, is one of the most entertaining historical romances in the language.

North West Company
tokens

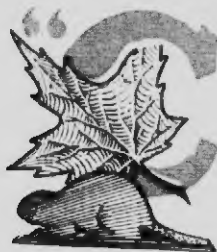




THE legends of many of the Indian tribes tell how, in the beginning, the world was all covered with water, and the Great Manitou peopled it with the beaver, the muskrat and the otter, animals whose aquatic habits, one can readily understand, must have impressed the Indians. But as the building of the world was a prodigious task, these animals were all of gigantic size. They dived and brought up the mud with which the Great Manitou made the earth. The mountain ranges, cataracts and caves were thus the work of the giant beavers, and the erratic boulders which in so many places stand conspicuously in the landscape were the missiles thrown by the Manitou at offending beavers. The Amikonas, or people of the beaver, an Algonquin tribe of Lake Huron, claimed descent from the carcass of the great original beaver, or father of the beavers; and the beaver was one of the eight clan names of the Iroquois. In the wonderful totem poles of the Queen Charlotte Islanders, a prominent place is given the beaver. The Crees have a legend which tells of the tooth of a giant beaver having been made into an adze for hollowing out logs of wood for canoes. In the Algonquin legends of New England, collected by Charles Leland, figures Quahbeet, the giant beaver, the flapping of whose tail made the thunders. The Micmacs recognized the site of a beaver dam which once flooded the Annapolis Valley, and they said that the bones of the beavers who built that legendary dam were still to be found, and that the teeth measured six inches across.



According to the Ojibways there was an immense beaver in some part of Lake Superior. They pointed out an island in the lake about two miles long and a third of a mile broad, and said that the beaver was of the same size. Another story relates how Nanahbozho went one morning to Lake Superior for the purpose of catching a beaver for his breakfast. He succeeded in dislodging a young beaver, and chased it towards Sault Ste. Marie. A stone thirty feet in diameter, to be seen to this day on the shores of Lake Michigan, was a missile used by Nanahbozho in this chase. He caught the beaver eventually in the Ottawa River, and dashed its head against the rocky bank, where, the Indians say, the marks of blood are still to be seen.



“CANADA has two emblems—the beaver and the maple,” said Sir William Dawson, in a lecture in 1863. “The beaver in his sagacity, his industry, his ingenuity and his perseverance, is a most respectable animal, a much better animal for our country than the rapacious eagle or even the lordly lion; but he is also a type of unvarying instincts and old-world traditions. He does not improve, and becomes extinct rather than change his way.” When the eminent Principal of McGill University uttered these words the beaver seemed destined to extinction. That danger has during recent years been effectually guarded against by the action of the different Provinces of the Dominion in passing stringent laws for the protection of the beaver. In Manitoba the close season for beavers

Canadian postage stamp
issued 1851



has already continued for several years, and there is small likelihood of a date being fixed after which beavers may be trapped or killed in any way. There are many beaver colonies in this Province, on the Ochre River, in the Swan River district, in the neighborhood of Lake Dauphin, along the Souris River and in the Lake of the Woods region. In Saskatchewan no one may trap or kill beaver in any manner until December 31, 1910; nor may anyone, during that time, destroy a beaver dam. In Alberta the law forbids the taking of beaver until after December 31, 1912; and in British Columbia until after August 1, 1911. In Ontario, as in Manitoba, an indefinite period has been fixed for the protection of the beavers. In Algonquin Park they have multiplied to such an extent as almost to become a nuisance. The Superintendent of the Park has written to Mr. Gibson, Deputy Minister of Mines, that the beavers cut down a shade tree in front of his cottage one night during the past summer. The statement made some time ago and generally discredited, is repeated, that the section men along the line of the Grand Trunk are having difficulty in keeping the culverts clear, as the beavers insist on damming them up whenever they get a chance.

Mr. R. C. W. Lett, of the Grand Trunk Pacific, who has taken a great interest in the beaver for years, often watching them at their work at night, told an interesting story in an interview published in the Free Press of September 25 last:

In many parts of the district timber permits are still held by individuals who received them before it was determined to change the 2,000 square miles of land west of the Ottawa River into a national park. These permits have not been transferred, and cutting still con-



A beaver trap

tinues on many of them. When the cutting season closes the company engaged in cutting usually leaves a man to look after the 'left overs,' and on one occasion Joseph Latour was left in charge by the H. F. McLachlan Mill Company. Latour made a periodical inspection of the timber in his canoe, and on one of his journeys, upon coming to Alder Creek, at a point where portaging was necessary, he found that the beavers had dammed the river, and that the water had flooded the bank right into the tangled underbrush, so that it was with the utmost difficulty that he managed to portage his canoe across a steep hill. He decided to cut a portion out of the dam, in order to relieve the flood, and did so, placing a net across the cutting. This, he found on his next trip, had been repaired and the dam was as before. He then resorted to another device, placing two cross-cut saws, with the teeth pointing up the river, in the gap. This also was ineffectual, and Latour hit upon the plan of placing a revolving wheel across the aperture which he had re-cut, thinking that in this way he would prevent the rebuilding of the dam. On his return the wheel was completely built in, and the laborious portage had to be repeated. In desperation he played his last card. Knowing the timid nature of the beaver, he constructed a figure in the shape of a man, and placed it in the centre of the aperture, where it remained, a grotesque object, for several days. This, however, also failed, for on his return some days after, the head and shoulders only of the figure remained sticking up above the completed dam. Latour then gave up trying to clear the portage."

In the same interview, Mr. Lett stated that some of the most serious damage done by beavers in the Algonquin Park is in connection with the trout streams in the district. The effect of the dam has been in many places to flood the spawning grounds of the trout, which should of necessity be shallow, and thus to drive the trout out of that part of the stream. The water has also in many parts risen above the banks, and lies like a muskeg among the alder growth and underbrush on either side.

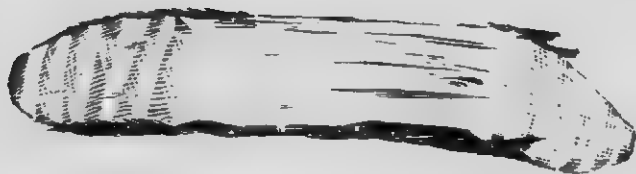


Stump showing that
methods of cutting
disagree



THE architectural operations and co-operative life of beavers are very wonderful, although the statement at one time commonly made that they drive stakes into the ground has no foundation in fact, and some of the other legends which passed current along with it were equally fabulous. Beavers dwell normally in colonies along streams which may have been inhabited by scores of families, and whose improvements represent the combined labor of thousands of individual beavers, past and present. Such a colony begins by the settlement in the spring, upon some sluggish, moderately deep woodland stream or pond, of a pair of young beavers that have immigrated thither from some old settlement. Their first labor is to dig a burrow in the bank, the entrance to which is at a safe depth beneath the water, and the interior chamber at a safe height above its normal rise. In this burrow they make their home the first year, or perhaps two years; and such burrows, more or less in use and serving as refuges in danger, are common also in beaver settlements. It is essential that a sufficient depth of water be maintained before the door of this burrow to give clear ingress and egress under the winter's ice and to afford room for storage of winter provisions; and in most places chosen by the animals this can be arranged only by damming the stream. As the droughts and low water of summer begin, the beavers, therefore, seek a place in the stream a little below their residence, where it is narrow, not more than two and a half feet deep, and has a firm bottom,

Beaver chip



and there they begin a dam. Gnawing down saplings, ten or twelve feet in length, they drag and float them to the spot, and swing them lengthwise side by side across the current, beginning at the centre of the channel, and loading them with stones, sods and mud to keep them in place. They will handle remarkably large stones for this purpose. The work is gradually extended until it reaches the bank on each side, and in doing so a convex outline upstream is usually given; but this probably is an accident of the increasing pressure of the obstructed current on the progressing wing of the new dam, rather than an engineering design, for reverse (or weak) curves are frequently found in beaver dams. Such a dam grows constantly by the addition of all sorts of material—not only the logs and sticks from which the bark has been gnawed for food, but others cut for the purpose, and a constant intermixture of roots and branches with stones, moss, grasses and mud. Additions as well as constant repairs are made on the upper side, which comes to present a low slope of comparative solidity, while the lower front of the dam is a more abrupt tangle of sticks and branches. The beavers work at the dam only at night, except in an emergency, and each one does what it thinks proper in a quite independent way, although the result is for the common benefit. On moonlight nights the beavers are exceedingly busy from sunset to sunrise. After many years such dams may be four or five feet high at the channel and stretch to the right and left across low ground for fifty yards or more, converting the space about it into a broad, grassy pond having a network of great channels.

Beaver "wholes"





There were beaver dams in Northern Wisconsin, described in Morgan's "The American Beaver and His Works," 600 feet long, with many acres of flooded ground. The water does not flow over the tops of these dams, but percolates through them, although some of them become seemingly solid barriers of earth. "In places which have been long frequented by beavers undisturbed," we read in the narrative of Samuel Hearne, the Hudson's Bay Company's explorer, who, in the years 1767-72, traversed what is now Western Canada, "their dams, by frequent repairing, become a solid bank capable of resisting a great force both of water and ice; and as the willow, poplar and birch generally take root and shoot up, they by degrees form a kind of planted hedge, which I have seen in some places so tall that birds have built their nests among the branches." A large proportion of the marshy ponds and peat bogs of the continent have had this origin.



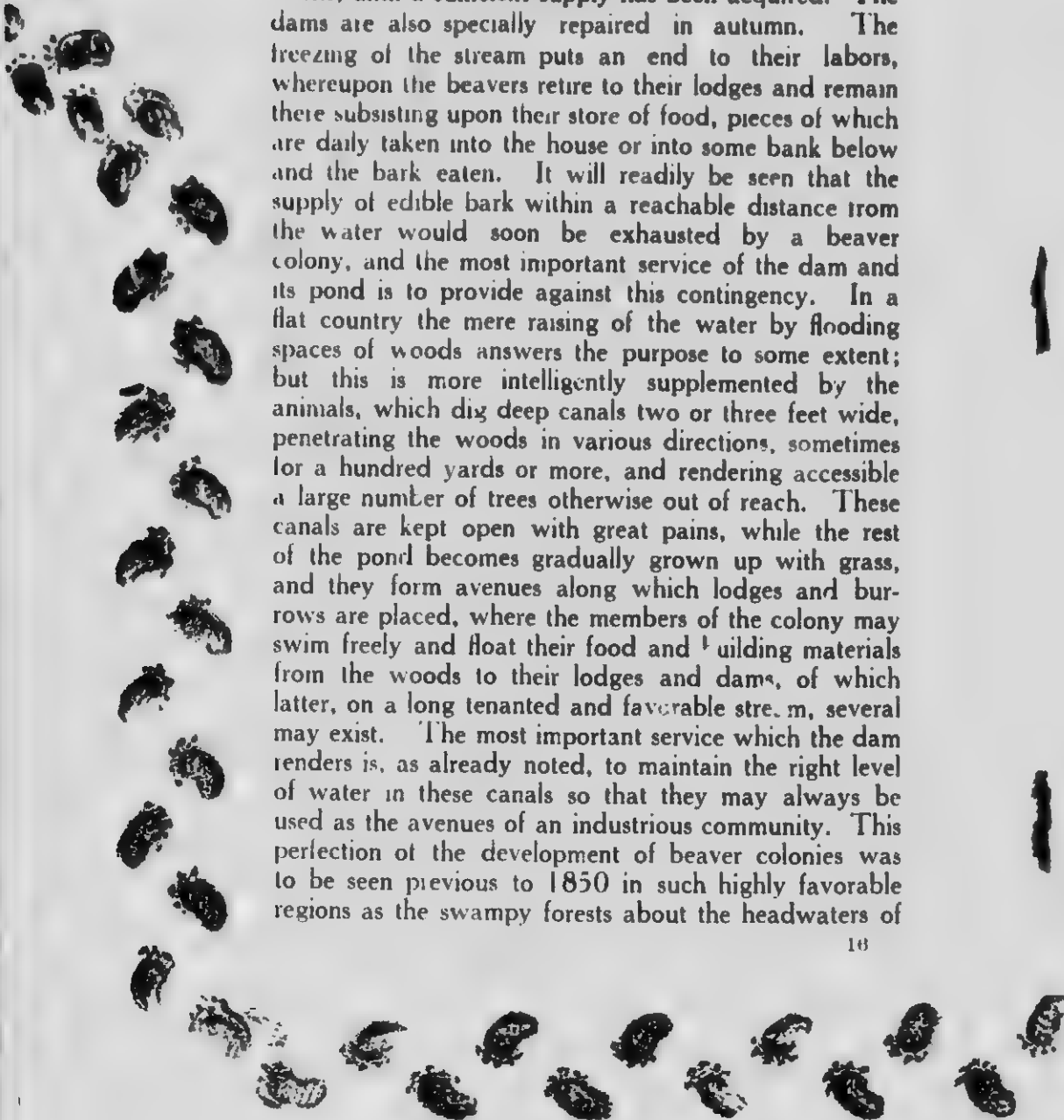
MEANWHILE from the first summer onward the beaver families, increasing in number, have built each for itself permanent homes, to which, from their resemblance to wigwams, the name of lodges was given by the early travellers. The sites chosen are along the banks of a stream or beaver canal, as it is called in books that have been written about this interesting animal; and several houses may be so close together as to touch, or they may be widely scattered. The larger lodges are, in the interior,

about seven feet in diameter, and between two and three feet high, with the floor and inner walls made smooth by gnawing and wear. These structures, like the dam, are formed of branches of trees matted with mud, grass, moss and other material. The walls are very thick, and the entire structure not only secures much warmth but is a very efficient protection from wolves, wolverines and other beasts of prey, especially when frozen in winter. Each family builds, maintains and occupies its own lodge. The belief that several families live together arose from the fact that the young beavers usually continue to live with their parents until the third year. Single "bachelors," dwelling remote and alone, are occasionally found.

The food of the beaver is almost wholly the bark of deciduous trees, especially poplar, birch, willow, linden and maple. They never eat the bark of "ever-green" trees, and are absent from forests exclusively coniferous. In the summer they gnaw the fresh bark day by day, and also eat more or less of lily roots and other green vegetable growths, berries and leaves. The impossibility of obtaining this food in winter, when the waters and woods are clogged with ice and snow, compels them to prepare a supply. For this purpose the beavers become very active in the autumn, each family cutting down large trees and gnawing the limbs and trunks into sections small enough to be dragged to the water and floated to the neighborhood of their lodge. There this material is sunk to the bottom and firmly anchored in a manner which is not comprehended by those who have studied the beaver and its

A Beaver house



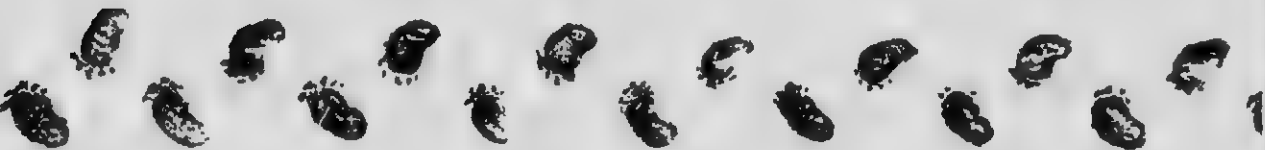


habits, until a sufficient supply has been acquired. The dams are also specially repaired in autumn. The freezing of the stream puts an end to their labors, whereupon the beavers retire to their lodges and remain there subsisting upon their store of food, pieces of which are daily taken into the house or into some bank below and the bark eaten. It will readily be seen that the supply of edible bark within a reachable distance from the water would soon be exhausted by a beaver colony, and the most important service of the dam and its pond is to provide against this contingency. In a flat country the mere raising of the water by flooding spaces of woods answers the purpose to some extent; but this is more intelligently supplemented by the animals, which dig deep canals two or three feet wide, penetrating the woods in various directions, sometimes for a hundred yards or more, and rendering accessible a large number of trees otherwise out of reach. These canals are kept open with great pains, while the rest of the pond becomes gradually grown up with grass, and they form avenues along which lodges and burrows are placed, where the members of the colony may swim freely and float their food and building materials from the woods to their lodges and dams, of which latter, on a long tenanted and favorable stream, several may exist. The most important service which the dam renders is, as already noted, to maintain the right level of water in these canals so that they may always be used as the avenues of an industrious community. This perfection of the development of beaver colonies was to be seen previous to 1850 in such highly favorable regions as the swampy forests about the headwaters of

the Mississippi, and it is being renewed in parts of Canada and in Northern Maine, where, under the protection of law, beavers are increasing and re-occupying their ancient haunts. Where beaver colonies had lived for many years undisturbed, the shallow waters above the dam become gradually overgrown with vegetation, and this, with the accumulation of chips, branches, leaves and other vegetable refuse, made the fertility of many an acre. It is an interesting fact that the name of the Indian village which occupied the site of the city of Montreal meant "beaver meadow." Both in the eastern and western suburbs of Montreal the evidences of beaver meadows are unmistakable, and where now is the busy thoroughfare known as Craig Street, once was a beaver canal.



A LARGE beaver is about two feet in length from the root of the tail to the nose, and the tail is nearly a foot long. Such a one will weigh about thirty-five pounds. Its flesh is edible, but not particularly good. The fur is exceedingly close and fine, and when freed from the long hairs that are scattered through it and overlie the undercoat, forms one of the most valuable furs of commerce. Originally beavers were widespread throughout Europe and Northern Asia, but they became extinct in the British Isles in the twelfth century, and are now found in continental Europe only in a few of the wilder streams of Norway and some of the tributaries of the Rhone and the Danube, where they are under Royal protec-



tion. Beavers are still plentiful in Eastern Siberia, whence a large number of skins are annually sent to market. The beavers on this continent have carried their architectural work to a higher degree of perfection than the European beaver was ever known to do, although the beavers of Siberia, having to build houses impervious to the attacks of marauding animals, come near to equalling their North American cousins. The general form of the beaver is thick and clumsy, broadest at the hips, and squirrel-like. Beavers, indeed, are closely related to the squirrel, and, like them, sit up a great deal, holding their food up to their mouths in their fore-paws, which they also use otherwise very dexterously. In swimming they make use of their hind feet alone, the fore feet remaining motionless and close to the body. The tail is of service as a sculling oar and as a rudder. Another important use of the tail is for the loud slapping of the water when an alarmed beaver dives. This danger signal to the others has been heard more than half a mile. The incisors, or cutting teeth, of which there are two in each jaw, are formed in front of hard, orange-colored enamel, while the back of the tooth is formed of a softer substance, more easily worn down, so that a sharp, chisel-like edge is always preserved, the bulbs being persistent, so that the teeth are continually growing as they are worn away. There are four flat molar teeth, or grinders, on each side in each jaw.

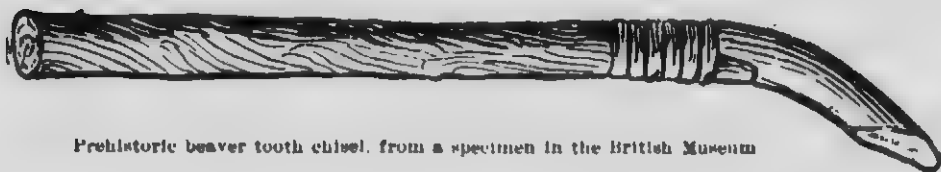
Beaver chip





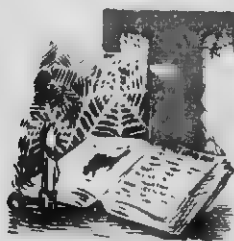
THE young beaver is easily tamed. In the early days of the settlement of Canada, it is recorded that beavers were frequently brought alive into the settlements, and often made pets of. There are many amusing accounts in the old records of the odd doings of these pets. The legs of tables and chairs attracted their attention as suitable substitutes for the delicate undergrowth of the forest; and boots and shoes, brushes, books, and other small articles served to dam up a doorway or form a lodge under a bed or some other article of furniture—each work showing distinctly the instinct to build. In Sir Daniel Wilson's "Early Notices of the Beaver" is given a story told by a Mr. John Langton which shows the fate of most of those beaver pets, and explains how the practice of domesticating young beavers fell into disuse. The owner of the beaver told of by Mr. Langton had no furniture for the animal to gnaw, being an old trader married to a squaw and living more like an Indian than a white man. "His favorite was quite playful, and though he lived on the shore of Buckhorn Lake, the beaver seldom took to the water. It used to lie before the fire as contentedly as a dog, and it was not till winter set in that it became a nuisance. Poor old Bill McHugh's house was well ventilated, an open chink between the logs being thought very little of by him and his family; but the beaver was very impatient of such negligence, and used to work all night at

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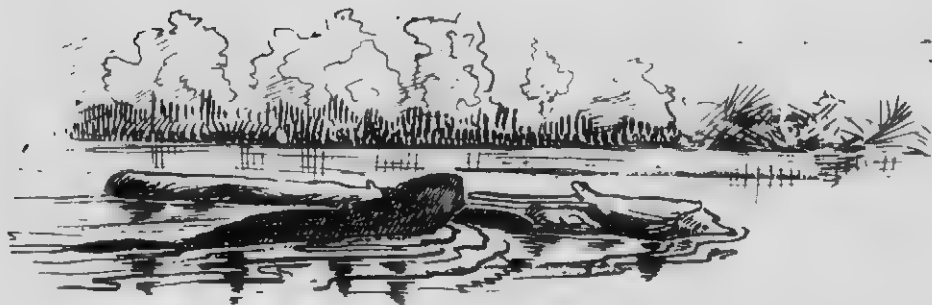


Prehistoric beaver tooth chisel, from a specimen in the British Museum

making things air-tight and comfortable without much discrimination as to the material it employed. If Bill or his guests went to bed leaving their moccasins and tichigans drying before the fire, they were certain to be found in the morning stowed away in some chink or cranny; and stray blankets and articles of clothing were torn up by the industrious beaver for the same purpose. The consequence was that the poor pet was at length sacrificed—its body went into the trader's pot and its skin to market."



THE earliest references to the beaver date back to 500 B.C., when Hippocrates mentioned it in connection with the medicinal uses of castoreum, the reddish-brown odorous secretion found in pouches which the beaver possesses, like the civet cat. It was formerly in high repute in medicine, but is now used chiefly by perfumers. Bacon, in one of his Essays, writes of the sovereign virtues of castoreum for the brain. Herewith is given a photo-engraving of the title-page of a medical treatise entitled "Castorologia," that is, "Beaverology," or "A



CASTOROLOGIA

explicans

Castoris animalis naturam & usum
medico-chemicum

Antidhac

•

JOANNE MARIO

Bollensi & Physico Ulmano postea Augu-
stano celeberrimo labori insolito
subjecta.

jam vera

Ejusdem Auctoris & aliorum Medicorum ob-
servationibus luculentis ineditis, adfectibus
omissis, & propria experientia parili
labore aucta

•

JOANNE FRANCO.

S. Chrysost. in Math.

*Invidia semper sibi est inimica; nam qui invidet, sibi
ignominiam facit; illi autem cui invidet, glo-
riam parit.*

AUGUSTA VINDEL. M DC LXXXV.

Typis Koppmayerianis,

Impensis Viduae Theophili Gubelii.

Picture of beaver from
"Castorologia"



Treatise on the Beaver," printed in 1685, of which
the translation is as follows:

A TREATISE ON THE BEAVER
Explaining
THE NATURE OF THE BEAVER AS AN
ANIMAL AND ITS USE IN MEDICINE
AND IN CHEMISTRY

Originally Prepared with the Most Renowned and
Unprecedented Labor
by

JOANNES MARIUS,
Of Bolle, a Naturalist, first at Ulm. and afterwards at
Augsburg.

And Now Enriched with the Luminous and Hitherto
Unpublished Observations of the Author himself
and of Other Medical Men, Omissions being
Supplied,

And also Enriched by the Personal Experiments and
the Rivalling Diligence of

JOANNES FRANCUS
St. Chrysostom on Matthew:

"Envy is ever its own enemy; for he who envieth pre-
pareth ignominy for himself; but for him whom
he envieth he prepareth glory."

AUGSBURG, 1685;
Printed by Koppmayer.

Sold by the Widow of Theophilus Goebelius.

The following are a few paragraphs from this
curious old book, translated:

"The skin of the beaver is of great utility in colic, in

22



skull of beaver, from
"Castorologia"

madness, and in spasms; it cures bed-sores, and consumption in children.

"The fat of the beaver is of no less utility in medicine, and it is efficacious in all maladies which affect the nerves. It is useful in epilepsy, and prevents apoplexy and lethargy; stops spasms and convulsions, and is of great help in giddiness, toothache, asthma, dysentery and strains.

"The blood of the beaver is an efficacious remedy for epilepsy, for on giving it to a beggar boy who was subject to this malady he was free from it for six days. I made him take some of it a second time, and I have never seen him since, which has made me believe that he was perfectly cured.

"A girl whose memory was completely lost through a malignant fever regained it with the help of castoreum, to the great astonishment of her parents, who thanked me a thousand times.

"Castoreum does much good to mad people; and those who are attacked by pleurisy give proof of its effect every day, however little may be given to them. Castoreum destroys ideas; is an excellent stomachic; stops hiccough; induces sleep; prevents sleepiness; strengthens the sight; and, taken up through the nose, it causes sneezing and clears the brain.

After recounting many instances of wonderful cures, the author writes:

"As all remedies have a limited virtue, and can even become injurious sometimes, one ought not to be surprised if castoreum does not always produce the anticipated result."

On the final page of the book he says:

"A Jew of my acquaintance who visited me occasionally, knowing that I studied this work, communi-



Castoreum
pouches

cated to me a secret which he had learnt from his ancestors, who themselves got it from Solomon, who had proved it. He assured me that in order to acquire a prodigious memory, and never to forget what one has read, it was only necessary to wear a hat of the beaver's skin, to rub the head and spine every month with that animal's oil, to take twice a year the weight of a gold crown-piece of castoreum, and, above all, to carry constantly one of the lower cutting teeth of the beaver.

"As this has much affinity with my subject, I did not wish to omit it, though I allow every one the liberty of believing what he will concerning it.

"If the reader find some fault in my work, let him remember that I am but a man, and my knowledge is imperfect; and if he discovers in it anything useful, let him return thanks to Him from whom all our knowledge comes."

You are not asked to believe that the incisor from the lower jaw of a beaver which the Free Press sends you with this little book possesses any of the wonderful virtue that made it the crowning item in the prescription set forth by Joannes Francus as the secret of Solomon's wisdom. The Free Press, while "allowing every one to believe what he will" in regard to the legendary talismanic potency of the beaver tooth, only asks you to believe that it goes to you with all good wishes for Christmas.



The Manitoba Free Press

*Has Marked the Christmas Season in previous
years by the presentation :*

- In 1901—Of a miniature sack of "No. 1 Hard" Manitoba Wheat.
- In 1902—Of a miniature sack of Reindeer Pemmican, made at Fort McPherson, a Hudson's Bay Company post, sixty-five miles within the Arctic Circle, and 2978 miles northwest of Winnipeg, accompanied by an illustrated booklet bound with a deerskin thong.
- In 1903—Of a Gopher's Tail, mounted, as a "good luck bringer," accompanied by an illustrated booklet containing the Cree legend of the Gopher, given in print for the first time.
- In 1904—Of a pen made from a quill of a Canadian Wild Goose, with an illustrated booklet containing the Cree legend of the Wild Goose, given in print for the first time.
- In 1905—Of a Flint and Steel, with an illustrated booklet containing the Cree legend of the origin of fire, set forth in print for the first time from a manuscript journal of an officer in the service of the Hudson's Bay Company, dated in the year 1817.
- In 1906—Of a Pipe of Peace, with an illustrated booklet containing certain Indian legends of the origin of the Calumet, and some account of the usages in connection therewith.
- In 1907—Of a little Barrel of Flour made at the Hudson's Bay Company's mill at Vermillion, 400 miles south of the Arctic Circle, from wheat grown in the Peace River country, with an illustrated booklet containing some account of wheat growing and flour milling, ancient and modern.
- In 1908—Of a package of Caviar from Lake Winnipeg, with an illustrated booklet containing some account of the history of Caviar, and a Cree legend of the Sturgeon, given in print for the first time.

The Beavers' Teeth (lower jaw incisors, the cutting tools of the animal, of which each beaver has two) presented this year have been procured for the Free Press by the Hudson's Bay Company at its far northern posts in the unorganized Territories of the Dominion, from Labrador to the MacKenzie River. The collection of these teeth for the Free Press has been going on for over four years.

WINNIPEG

*The Capital of the Province of Manitoba, the Financial Centre,
and the Commercial Metropolis of Western Canada*

Population, 1909 (estimated)	130,000
Total Assessable Property, 1909	\$107,997,320
Rate of Taxation, 1909	15 Mills
Building Permits, 1909 (11 months)	\$9,152,500
Local Improvements, 1909 (11 months)	\$1,005,662
Area of Public Parks, 1909, acres	395
Area of City, acres	13,999

GROWTH OF POPULATION

1874 (year of incorporation)	1,869
1885	19,574
1898	36,384
1902	48,411
1903	51,741
1904	67,262
1905	79,975
1906	101,557
1907	111,729
1908	122,250
1909 (estimated)	130,000

GROWTH OF ASSESSMENT

1901 (real and personal property)	\$26,405,770
1902	28,615,810
1903	36,373,400
1904	48,214,950
1905	62,727,620
1906	80,511,725
1907	93,825,960
1908	102,790,170
1909	107,997,320

BANK CLEARINGS

1901	\$106,950,720
1902	188,370,003
1903	246,108,006
1904	294,601,437
1905	369,868,179
1906	504,585,914
1907	599,667,576
1908	614,111,801
1909 (11 months)	675,171,910

INLAND REVENUE RECEIPTS

1901	\$ 537,958
1902	637,881
1903	775,783
1904	914,189
1905	1,000,685

LOCAL IMPROVEMENTS

1901	\$ 327,029
1902	387,201
1903	469,394
1904	432,689
1905	907,503
1906	1,071,633
1907	943,302
1908	880,380
1909 (11 months)	1,005,662

BUILDING PERMITS

No. of Buildings	Value
1901 .. 796	\$ 1,708,557
1902 .. 972	2,408,125
1903 .. 1,593	5,689,400
1904 .. 2,268	9,651,750
1905 .. 4,099	10,480,150
1906 .. 4,176	12,760,450
1907 .. 4,827	6,309,950
1908 .. 1,769	5,513,700
1909 (11 mo.) 2,904	9,152,000

CUSTOMS RETURNS

1901	\$ 975,880
1902	1,492,469
1903	1,936,811
1904	2,601,252
1905	2,795,051
1906	3,620,072
1907	3,144,554
1908	4,132,021
1909	3,343,520

1906	1,148,723
1907	1,028,209
1908	1,216,337
1909	956,036

Western Canada

*"The Last West"—The Field of the Free Press,
Winnipeg*

ACREAGE UNDER GRAINS, 1900

	Acres
Wheat	6,731,111
Oats	3,936,632
Barley	1,012,000
Total	11,679,743

This acreage, enormous in itself, is estimated as being less than 7% of the arable land of the Canadian West.

WESTERN CANADA'S GRAIN CROP

	Wheat	Oats	Barley
1901	63,311,632	38,909,654	7,331,255
1902	67,034,117	45,139,455	12,718,839
1903	56,146,021	47,215,479	10,448,461
1904	54,390,678	44,620,520	10,920,850
1905	84,506,857	66,311,800	13,447,800
1906	94,201,984	94,244,000	16,888,000
1907	70,922,584	74,513,561	19,187,419
1908	96,863,689	108,987,855	24,050,615
1909 (estimated)	118,109,000	163,998,752	30,542,000

ELEVATOR CAPACITY OF WESTERN CANADA

	Bushels
Head of Lakes	28,490,000
Interior	51,072,400
Total	79,562,400

Comparisons

1907	68,224,000
1908	71,302,400
1909	79,562,400

FLOUR MILLING CAPACITY OF WESTERN CANADA

	Bbls. per day
Winnipeg to Lake Superior	32,800
West of Winnipeg	18,035
Total	50,835

WESTERN CATTLE TRADE

	Exported	Local Sales	Stockers	Total
1904				40,433
1905	58,972	25,376	6,315	90,663
1906	85,737	40,897	3,792	130,426
1907	44,247	48,651	7,321	100,199
1908	91,045	63,964	15,009	170,088

IMMIGRATION INTO WESTERN CANADA

Year Ending June 30	United States	British	Other Countries	Total
1901	17,958	11,810	19,381	49,149
1902	21,672	17,259	28,448	67,379
1903	47,780	41,787	38,797	128,364
1904	43,172	50,915	36,242	130,328
		British and Other Countries		
1905	43,543		102,723	146,266
1906	57,796		131,268	189,064
Year End. Mar. 30				
1907 (9 mos.)	34,659		90,008	124,667
1908	58,312		204,157	262,469
1909	59,832		87,046	146,908

POPULATION OF THE PRAIRIE PROVINCES

	Man.	Sask.	Alberta	Total
1871	25,228		18,000	43,228
1881	62,260		25,515	87,775
1891	152,506		66,799	219,305
1901	255,211		158,940	414,151
1906	360,000	260,000	185,000	805,000
1909 (estimated)	484,519	349,645	273,412	1,107,576

RAILWAY MILEAGE IN WESTERN CANADA

Canadian Pacific—

Mileage at the close of 1908	5,693
New steel laid during 1909	404
Total mileage at the close of 1909	6,097

Canadian Northern—

Mileage at the close of 1908	3,250
New steel laid during 1909	250
Total mileage at the close of 1909	3,500

Grand Trunk Pacific (including National Transcontinental)—

Mileage at the close of 1908 .	982
New steel laid during 1909	403
Total mileage at the close of 1909	1,385

Great Northern—

Mileage at the close of 1909	490
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SUMMARY

Total mileage in Western Canada at close of 1908 ...	10,415
New steel laid in Western Canada during 1909	1,057
Total mileage at the close of 1909	11,472

Facts About the Free Press

WINNIPEG

GROWTH OF CIRCULATION

Sworn Average Circulation of the Daily Free Press.

1901	13,862
1902	15,341
1903	18,824
1904	25,693
1905	30,048
1906	34,559
1907	36,852
1908	37,095
1909 (10 months).....	40,782

Sworn Average Circulation of the Weekly Free Press and Prairie Farmer.

1902	10,672
1903	13,640
1904	15,801
1905	15,654
1906	21,300
1907	23,816
1908	27,425
1909 (10 months).....	27,347

VOLUME OF ADVERTISING CARRIED BY THE DAILY FREE PRESS.

	Lines Display	Lines Classified	Total Lines
1904			6,913,500
1905	5,820,450	2,192,625	8,013,075
1906	6,067,050	2,717,625	8,784,675
1907	6,201,300	2,938,200	9,139,500
1908	4,415,550	2,074,875	6,490,425
1909 (11 months)	4,500,225	2,537,400	7,037,625

Press Capacity

The figures given represent the number of 16-page papers which can be printed in an hour.

1900 (Cox Duplex, limit 8 pages)	4,000
1901 (Hoe Pony Quad)	10,000
1904 (Hoe Pony Quad and Full Quad).....	34,000
1905	34,000
1906 (Hoe Quad and Hoe Sextuple)	60,000
1907 (Two Hoe Sextuples)	72,000
1908	72,000
1909	72,000

Paper Consumption by the Manitoba Free Press Co.

1899.....	550,000	Pounds
1900.....	644,640	"
1901.....	999,217	"
1902.....	1,290,492	"
1903.....	1,972,098	"
1904.....	2,791,356	"
1905.....	3,573,704	"
1906.....	4,160,398	"
1907.....	4,624,701	"
1908.....	4,138,089	"
1909*.....	4,105,853	"
*11 months.		

A Leading United States Journal on the Movement to Western Canada

The Portland Oregonian, in its issue of October 5, 1909, publishes the following editorial:—

"LOSING AMERICAN CITIZENS."

"The exodus of American farmers to Canada continues to be a phenomenon of the first importance. More of them are crossing the border this fall than ever before, and they are flocking thither from all parts of the country. Formerly it was the Middle West alone which thus lost the heart of its citizenship. Now all sections of the Union suffer alike. Besides the regret which we cannot help feeling over the migration of many thousands of excellent citizens to a country which is certainly foreign, and which may become hostile, the matter has an economic side which causes some concern. The 70,000 farmers who will go to Canada to live this fall will take with them some \$70,000,000 in cash and effects. This is by no means a negligible sum. Added to the annual remittances which the industry of United States must make to our millionaires living in Europe, to our young women who have endowed impecunious nobles, and to the thousands of travellers who flock to foreign lands every summer, it makes a very appreciable drain on our resources. But, of course, the most serious loss is the men themselves and their families, who have forsaken the land of the free and the home of the brave to dwell under the rule of a monarch.

"Why do they go? Naturally the cheap and fertile land of Western Canada attracts them. Each emigrant goes with a

reasonable expectation of bettering his fortune. Indeed, in a few years he may grow rich through the abundant crops he can raise and the increase of land values. But perhaps that is not the sole reason for the astonishing migration. There is a common notion abroad that in Canada life and property are appreciably safer than they are here. Murders are not so frequent, and are more speedily and surely punished. Mobs and the so-called 'unwritten law' are virtually unknown in Canada. Again, the law is a vastly more ascertainable entity there. Canada does not permit its judges to veto acts of the legislative body. When a statute has been enacted it is known to be the law of the land until it is repealed. This naturally imparts to Canadian civilization a security and stability which we have not yet attained.

"We must remember, in the same connection, that the Canadian protective tariff is far less exorbitant than ours, and much less boldly arranged for the benefit of special favorites. Hence, there is an impression, very widely diffused, that the Canadians are not so wickedly robbed by the trusts as we are in this country. Reasons like these sufficiently account for the exodus of a body of citizens whom we can ill afford to lose, but they do not much assuage our regret that they cannot be retained in the United States."



